CLAIMS

1. A method for determining a temperature coefficient of change of a parameter of an electrical component, the method comprising:

providing at least one thermally-isolated micro-platform on a substrate;

placing an electrical component on said at least one thermally-isolated micro-platform;

heating said electrical component;

measuring a parameter value of said electrical component at a plurality of temperatures; and

determining said temperature coefficient based on said measured parameter values.

2. A method as claimed in claim 1, wherein said heating comprises providing a resistive heating element for heating said electrical component.

3. A method as claimed in claim 2, wherein said resistive heating element is provided on said thermally isolated micro-platform.

4. A method as claimed in claim 1, wherein said electrical component is a resistor and said heating comprises using resistive properties of said resistor to self-heat said resistor.

5. A method as claimed in claim 4, wherein said heating comprises applying at least one heat pulse to said electrical component.

6. A method as claimed in claim 1, wherein said determining said temperature coefficient comprises determining whether said temperature coefficient of said parameter is one of positive, negative, and zero.

7. A method as claimed in claim 6, wherein an acceptable margin is predetermined for determining if said temperature coefficient of said parameter is zero.

8. A method as claimed in claim 3, wherein said resistive heating element is provided with a power dissipation geometry such that a spatial temperature profile of said electrical component is substantially constant.

9. A method as claimed in claim 8, wherein said providing a power dissipation geometry comprises supplying more heat around edges of said electrical component in order to counteract a faster heat dissipation in said edges.

10. A method as claimed in claim 2, further comprising providing a second electrical component and said determining said temperature coefficient comprises determining a relative temperature coefficient of change of a parameter between said electrical component and said second electrical component.

11. A method as claimed in claim 10, wherein said second electrical component is provided on a second thermally isolated micro-platform on said substrate and said heating element is distributed substantially symmetrically between said electrical component and said second electrical component such that a heat pulse will heat said electrical component and said second electrical component in a substantially same manner.

12. A method as claimed in claim 11, wherein said heating element is provided on a third micro-platform between said micro-platform and said second micro-platform.

13. A method as claimed in claims 10, 11, or 12, wherein said determining said temperature coefficient comprises determining whether said temperature coefficient of said parameter is one of positive, negative, and zero.

14. A method as claimed in claim 10, wherein said measuring a parameter value comprises measuring said parameter in a Wheatstone bridge.

15. A method as claimed in claim 10, wherein said second electrical component is provided on said thermally isolated micro-platform.

16. A method as claimed in claim 15, wherein said heating element is placed substantially symmetrically between said two electrical components on said micro-platform.

17. A method as claimed in any one of claims 1 to 16, wherein said measuring comprises measuring said parameter as said electrical component cools down to said room temperature and using said cooling down measurements to determine said temperature coefficient of change.

18. A method as claimed in claims 1, further comprising measuring said parameter value at a plurality of elevated temperatures in order to determine how said temperature coefficient varies as a function of temperature.

19. A method as claimed in any one of claims 1 to 18, wherein said micro-platform comprises a plurality of said electrical components, said heating of said electrical component comprising heating of said micro-platform to heat all of said electrical components at a same time, said measuring and said determining being performed substantially simultaneously for all of said electrical components.

20. A method as claimed in any one of claims 1 to 18, wherein said measuring and determining is done in less than 1 second.

21. A method as claimed in claim 1, wherein said heating comprises raising a temperature of said electrical component using less than 1 milliwatts of power per degree Celsius of temperature rise.

22. A method as claimed in claim 1, wherein said heating comprises using less than 10^{-4} Joules per degree Celsius of temperature rise.

23. A circuit for determining a temperature coefficient of change of a parameter of an electrical component, the circuit comprising:

a thermally-isolated micro-platform on a substrate;

an electrical component on said at least one thermally-isolated micro-platform;

heating circuitry for heating said electrical component;

measuring circuitry for measuring a parameter value of said electrical component at a plurality of temperatures; and

determining circuitry for determining said temperature coefficient based on said parameter value at said plurality of temperatures.

24. A circuit as claimed in claim 23, wherein said heating circuitry comprises a resistive heating element for applying a heat pulse to said resistive heating element and heating said electrical component.

25. A circuit as claimed in claim 24, wherein said resistive heating element is on said thermally-isolated micro-platform.

26. A circuit as claimed in claim 25, wherein said heating element is positioned substantially symmetrically between said electrical component and a second electrical component.

27. A circuit as claimed in claim 24, wherein said heating element is positioned substantially symmetrically between said electrical component and a second electrical component, and wherein said second electrical component is on a second thermally isolated micro-platform and said heating element is on a third micro-platform between said micro-platform and said second micro-platform.

28. A circuit as claimed in claim 24, wherein said heating element has a power dissipation geometry for such that a spatial temperature profile of said at least one electrical component is substantially constant.

29. A circuit as claimed in claim 28, wherein said power dissipation geometry comprises supplying more heat around edges of said electrical component in order to counteract a faster heat dissipation in said edges.

30. A method as claimed in claim 6, wherein determining comprises determining how positive, on an arbitrary scale, and how negative, on an arbitrary scale, said temperature coefficient is.

31. A method as claimed in any one of claims 1 to 22, wherein said electrical component is a resistor.

32. A circuit as claimed in any one of claims 23 to 29, wherein said electrical component is a resistor.